

AU/ACSC/244/97-03



PRIVATIZATION OF MILITARY REPAIR DEPOTS

A Research Paper

Presented To

The Research Department

Air Command and Staff College

In Partial Fulfillment of the Graduation Requirements of ACSC

by

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March 1997

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Preface

The end of the Cold War resulted in the Military Services greatly reducing in size, partly in response to the changing threat and partly to help reduce the national debt. These reductions, often referred to as the "peace dividend," were demanded by the American public. Modernization and sustainment have taken their appropriate share of these cutbacks and must find ways to support the warfighter with less funding.

Joint Vision 2010 provides the conceptual template for achieving success in joint operations. I believe this thought process can be applied to Defense Depot Maintenance as well. Individually, the Services suffer from excess capacity that continues to drive up the cost of depot support. Through interservicing and privatization, scarce resources may be preserved for additional modernization and/or force structure.

In an effort to keep pace with the technology of our times, much of the research that went into this paper was done electronically. The majority of the data collection was done via the internet. There are two drawbacks to this media; first, it's hard to read, tab, and highlight electronic documents; second, if you choose to print downloaded documents, it gets expensive and time consuming.

Special thanks to my research advisor, Maj Mark Jordan who allowed me the freedom and latitude to make some mid-course corrections. Also, thanks to Mr Dennis Wightman and Logistics Management Institute (LMI) who were very responsive to my requests.

AU/ACSC/244/97-03

Abstract

Privatization and out-sourcing are buzzwords that are all the rage these days inside the Washington beltway. DoD is looking at any and all work currently being accomplished by military and civil servants that can be transferred to the private sector.

Defense Depot Maintenance's considerable annual budget make it a prime target for the privatization movement. Congress has entered the fray by chartering several recent commissions to reduce the cost of buying and maintaining weapon systems. Both the Commission on Roles and Missions and the Base Realignment and Closure committees have recommended reductions in the depot capacity of the Services.

Privatization is nothing more than letting private industry perform the same function as the current public depot system. An alternative to privatization is interservicing. Interservicing lets one service get depot support from another. One drawback to interservicing is it puts the Services at potential odds with each other as they try to protect against further reductions.

Choosing the right path will be difficult, assuming there is a right path. There is little argument that money can be saved by reducing the defense depot infrastructure. Several questions must be answered in the attempt at doing this. First, will the Services still be able to meet readiness requirements; second, does privatization actually save money; and third, can interservicing work, given each of the service's desire to maintain their own equipment?

Chapter 1

Introduction

Private and Public Roles

As early as 1993, then Air Force Vice Chief of Staff, General Michael Carnes predicted that the USAF would end up with only 15 percent of future depot work.¹ The ensuing debate has been emotionally charged from both proponents and foes of privatization during the last couple of years.

Defense of the country has always been a function of the government as mandated by the Constitution. Naturally, the maintenance of military equipment has traditionally been performed by the military Services. The current debate over public versus private roles in depot maintenance is a relatively new phenomenon. Historically the big defense corporations were not interested in maintenance because they were satisfied with the amount of new development work available. Now that modernization budgets are being drastically reduced, the big Original Equipment Manufacturer (OEM) companies are more interested in making inroads to the depot maintenance market. The Aerospace Industry Association, a Washington lobbyist group that represents the US aircraft manufacturers, believes this is a key issue that deals directly with the survivability of the industry.²

Depot-level maintenance is a \$13-15 billion a year industry. Approximately \$9 billion, or 70 percent of the total, will go for work performed by 95,000 DoD civilian and military personnel working in 30 government maintenance depots.³ The sheer magnitude of the dollars involved combined with current debate over public and private roles have forced DoD to alter its policy on depot maintenance.

DoD's Depot Maintenance Policy

DoD's 4 April 1996 report to Congress "calls for a clear shift to a greater reliance on private sector maintenance capabilities than exists today." No new model has emerged for managing depot maintenance since the end of the Cold War. However, DoD's new policy does provide impetus for a new direction in public and private roles. New policy provisions, (1) call for a minimum core requirement, (2) redefine core to allow for privatizing mission essential requirements previously defined as core, (3) limit public depots from competing with the private sector for noncore workloads, (4) provide a preference for privatizing depot maintenance and repair for new systems, and (5) provide disincentives for depots to compete. The policy projects a 40 percent increase in depot work that will be privatized between fiscal years 1997 and 2001.⁴

DoD has also redefined what it considers core workload. Historically, core meant those items that must be maintained by the government to meet readiness and sustainability requirements. Under the new definition, core means "limited organic core capability to meet essential wartime surge demands, promote competition, and sustain institutional expertise."⁵ This is a shift from actually performing the work to primarily providing oversight. Additionally, DoD made changes to its primary acquisition instruction DoDI 5000.2 regarding depot maintenance. Government program managers must now maximize the use of contracted life-cycle logistics

support in new acquisitions. This practice, over time will significantly reduce the need for organic repair capability.

Hearings this past summer have caused DoD to slow down the process somewhat. Congress was concerned about an all out push to transfer workload from the public to the private sector and the impacts it would have on some Congressional districts. The general direction, however, remains the same. DoD will move more workload to private industry.

Given the new DoD policy regarding depot maintenance, it appears that over the long term there will be at least some if not significant reduction in public maintenance capacity. As implementation of the new DoDI 5000.2 becomes widespread, not only will the need for organic capability diminish, the expertise of the private sector should grow at the same time. As previously mentioned, Congress will have its say, especially when it means loss of jobs in certain Congressional districts. If the Services make any attempt at significant capacity reductions by closing depots it will be met with resistance by the local community. Heavy resistance was clearly evident in Louisville, San Antonio, and Sacramento. All these locations lobbied hard to retain jobs in their cities after being identified for closure. Each of the Services has responded with various privatization-in-place schemes to try to lessen the impact on government employees and the communities involved. It's questionable whether this approach saves money over potential alternatives in the long run and therefore requires further examination.

The challenge for DoD is to work its way through restructuring of depot maintenance and still provide timely, quality Services and products to the fighting units. It must do this while addressing the concerns of Congress and its watchdog organizations. Because of the political

issues discussed earlier, this will be no easy task and will result in many compromises along the way.

The remainder of this paper will address the history of depot maintenance and the key legislative efforts by Congress to alter the shape of the public depots. Several case studies highlighting the pros and cons of privatization as well as interservicing form the bulk of the research analysis. Finally, a prediction of one possible future is presented based on recommendations made by the Defense Science Advisory Board and other oversight organizations inside the Washington beltway.

Notes

¹Boatman, John. *Industry Eyes Depot Work*. Janes's Defense Weekly, 24 July 1993, 28.

²Meadows, Sandra L., *Maintenance Pie Division Spurs Angst From Players*. National Defense, July/August 1994, 10.

³Department of Defense, Commission on Roles and Missions of the Armed Forces, *Report of the Commission on Roles and Missions of the Armed Forces*. Washington, D.C.: Government Printing Office, 24 May 1995, 1.

⁴General Accounting Office. *Defense Depot Maintenance: DoD's Policy Report Leaves Future Role of Depot System Uncertain*. Washington, D.C.: Government Printing Office, 21 May 1996, 4-6

⁵*Ibid*, 11.

Chapter 2

Background

No government ever voluntarily reduces itself in size. Government programs, once launched, never disappear. Actually, a government bureau is the nearest thing to eternal life we'll ever see on this earth.

— Ronald Reagan

Brief History of Depot Maintenance

Each of the Services maintain their own depot maintenance infrastructure. The Army has repaired its own equipment dating back to the old arsenal days. Similarly, the Navy has maintained its ships in Navy shipyards since 1799 when Congress authorized five of them. The Navy has also maintained its own aircraft at Navy facilities dating back to the early 1900s. Much of the Marine Corps' equipment is repaired by the Navy but they do operate two separate Marine depots. Air Force depot support draws its roots from the old Army Air Corps' air depot system and has steadily grown in size until recent cutbacks.¹ Appendix A provides a more thorough history of military depot maintenance. Location and status of currently active military depots is provided in Figure 1.

Core Methodology

Core requirements are those repairs mandated by law to be conducted by public facilities. Title 10 U.S.C. is the governing statute and requires DoD to "maintain a logistics capability sufficient to ensure technical competence and resources necessary for an effective and timely response to a mobilization or other national defense emergency."² If this seems slightly different from the DoD policy mentioned earlier, it's because the policy represents the current interpretation of Title 10 in light of budget constraints.

Historically, core requirements were set at 60 percent of the budget appropriated for depot support. This requirement is commonly referred to as the 60/40 rule. Although subject to a variety of interpretations, generally, the Services have followed this rule by not contracting out more than 40 percent of the depot workload. In fact, until recently the Services only contracted out approximately 30 percent of the total.³ There are other statutes that govern how DoD manages the depot workload, but the 60/40 rule is the main driver behind the sizing and distribution of work between private and public sectors.

One of the criticisms the Services have endured is how they interpret Title 10. Their interpretation has largely been a function of how much work they want to retain within their own depot systems. Some anecdotal evidence seems to support this criticism. In a 1994 report to Congress, each of the Services applied the core method in different ways, yet they were able to justify use of the public depots on major platforms even though the JCS planning said repairs wouldn't be needed until a Major Regional Conflict (MRC) was concluded. For example when the Army realized their estimates for electronic components were too low they expanded the list of mission-essential components to

support desired workload at its depots.⁴ Without Modifying the estimate the analysis suggested these were not core workloads, a major concern during the Base Realignment and Closure (BRAC) process. Similarly, the other Services made *adjustments* to support the desired outcome of senior leaders. Part of the blame lies with OSD's direction for competing core workload. In DEPSECDEF's 4 May 1994 Memo to the Services, the direction for calculating core is at best very broad, leaving a lot of room for interpretation. The complete text of this memo is included as Appendix B. The problem with the tactic adopted by the Services is while they're trying to protect their piece of the pie, the overall size of the pie is much more than the budget can accomodate. Clearly, the Services were struggling to make reductions on their own without some top-down direction. In response, Congress created several commissions to study ways of shrinking defense to include its maintenance infrastructure.

Commission on Roles and Missions

Congress established the Commission on Roles and Missions (CORM) of the Armed Forces in 1994. The primary objectives of the commission were to (1) review the appropriateness of the current allocations of roles, missions, and functions among the armed forces, (2) evaluate and report on alternate allocations; and (3) make recommendations for changes in the current definition and distribution of those roles, missions, and functions.⁵

Report to Congress

The commission's 24 May 1995 report to Congress, *Directions for Defense*, made some startling recommendations. In regard to support activities, the report said that DoD should reduce the cost of support to help fund higher priority needs.⁶ There is nothing unique about this recommendation in itself, but the report goes on to make some very specific recommendations about depot maintenance. First, DoD should move to a depot maintenance system relying on the private sector. Second, (DoD should) direct support of all new systems to competitive private contractors. Third, (DoD should) establish a time phased plan to privatize essentially all existing depot-level maintenance.⁷ These changes, if implemented, represent nearly a complete divestiture of public depot maintenance. This is quite a change from the current system that employs close to 100,000 government workers.

Base Realignment and Closure (BRAC)

In 1990, Congress passed the Defense Base Closure and Realignment Act. This act created an independent commission to propose a list of closures that must be approved or rejected in whole by the President and forwarded to Congress. Congress mandated reviews in 1991, 1993, and 1995. One previous round had already been completed in 1988 under legislation enacted that same year.⁸

BRAC Closes 10 Depots

BRAC has been the single-most influential factor in shaping the size of defense depot maintenance infrastructure. Three Navy shipyards, three naval aviation depots, one Air

Force depot, and three Army depots are being closed as a result of the first three rounds of the base closure process. Table 1 provides a complete list of those depots closed by BRAC through 1993. The 1995 round added one Army depot, two Air Force depots, one Navy shipyard and one Naval Aviation facility to the list.⁹ Currently there are no additional rounds projected for BRAC. However, it may be necessary in the not too distant future if excess capacity in the depot system continues to grow.

Table 1. BRAC Closures/Restructuring

Depot	BRAC round	Cease maintenance operations	Planned/ actual closure date
Lexington-Bluegrass Army Depot	1988	9/94	9/95 ^a
Sacramento Army Depot	1991	9/94	3/95 ^b
Philadelphia Naval Shipyard	1991	9/95	9/96
Charleston Naval Shipyard	1993	9/95	4/96
Mare Island Naval Shipyard	1993	4/95	4/96
Alameda Naval Aviation Depot	1993	9/96	3/97
Norfolk Naval Aviation Depot	1993	9/96	3/97 ^a
Pensacola Naval Aviation Depot	1993	9/95	3/96 ^a
Tonale Army Depot	1993	5/95	9/96 ^a
Acrospace Guidance and Metrology Center	1993	8/96 ^c	9/96
Newark Air Force Base			

^aThese depots are located on bases that are being realigned rather than closed and that will continue performing nonmaintenance missions.

^bAlthough most of the depot's land and facilities were turned over to the local community, some were retained pending completion of environmental cleanup work.

^cSince the closure plan involves turning the facility over to private contractors rather than closing it, maintenance operations will not actually cease but will be transferred to the private sector. Additionally, DOD civilians will continue to perform part of the metrology and calibration mission since the functions they perform have been determined to be "inherently governmental."

1997 Authorizations Act

The 1997 Authorizations Act seems to have taken the first steps in implementing at least some of the changes recommended by the CORM. The act calls for an increase or decrease, depending which side of the fence you are on, in the 60/40 rule. The new rule is 50/50, not a big move but 10 percent of \$15 billion is big business for private industry. The language in the act does stipulate that the 50/50 rule cannot be used unless DoD provides Congress with a strategic plan for depot maintenance. Something that has largely been left to the individual Services up to this point.

Other language in the 97 Defense Budget calls for more public-private competition of depot workload. Again, there is nothing new here just a reemphasis on competition between the depots and private industry. This language may have been included because DoD terminated its public/private competitions in 1994. The Deputy Under Secretary for Defense terminated the program because DoD did not have financial management systems capable of accurately determining the cost of specific workloads.¹⁰ Unlike private industry, DoD does not track costs by job and therefore has a difficult time in determining the actual cost of repairs. After being criticized by the GAO, DoD claims to have reinstituted competitions. However, there is no evidence that any competitions have occurred since 1994.¹¹

Notes

¹ General Accounting Office. *Closing Maintenance Depots: Savings, Workload, and Redistribution Issues*. Washington, D.C.: Government Printing Office, 4 March 1996, 60.

² Ibid, 21.

³ General Accounting Office. *Privatization and the Debate Over the Public-Private Mix*. Washington, D.C.: Government Printing Office, 17 April 1996, 7.

Notes

⁴ Congressional Budget Office. *Public and Private Roles in Maintaining Military Equipment at the Depot Level*. Washington, D.C.: Government Printing Office, July 1995, xi.

⁵ General Accounting Office, *Defense Depot Maintenance: Commission on Roles and Mission's Privatization Assumptions Are Questionable*. Washington, D.C.: Government Printing Office, 15 July 1996, 4.

⁶ Commission on Roles and Missions of the Armed Forces, *Directions for Defense*. Washington, D.C.: Government Printing Office, 24 May 1995, pg. ES-6.

⁷ Ibid, 3-8.

⁸ General Accounting Office. *Closing Maintenance Depots: Savings, Workload, and Redistribution Issues*. Washington, D.C.: Government Printing Office, 4 March 1996, 15.

⁹ Ibid, 2-3.

¹⁰ Ibid, 6.

¹¹ Ibid, 7.

Chapter 3

Privatization and Related Case Studies

Privatization for privatization's sake does not necessarily result in cost savings to the government.

— Andrew Jones
Science Applications International Corporation

Impact on Readiness

The Services have historically used readiness as a justification for performing the preponderance of depot maintenance at public depots. The thought process during the cold war was that private industry could not respond to war time maintenance needs both in terms of quality and timeliness. The end of the cold war and implementation of the current JCS scenario has seriously deflated that argument. Under the current two MRC strategy, large surge capacity is not required like it was during the cold war. The plans for a protracted war against a well equipped enemy have shifted to a short duration limited engagement. Hence, the current belief that there is no need to maintain a large organic maintenance capability within the government.¹

The two MRC scenario has come under recent heavy criticism both inside and out of DoD and may see some changes as a result of the Quadrennial Defense Review (QDR). That debate doesn't really impact the depot issue because in either case, one or two

MRCs, depot support will not be required until after the equipment has returned to the United States. Absent a return of the cold war posture, the expectation is for short duration limited engagements where repair and modification of equipment can wait until after the conflict has terminated.² Analysis of the Gulf War substantiates this concept.

In a 1993 study conducted by the Deputy Under Secretary for Defense (Logistics), a review of the operations in Desert Shield and Desert Storm indicate that private industry was up to the task of providing wartime surge support in all but a few instances. Thousands of contracts were let by the military departments and in some cases contractors actually went in-theater to perform work. The study points out the need for a strong organic capability but opened the door for increased reliance on the private sector.

Considering this analysis and the current JCS scenario, there seems to be minimal effect on readiness with increased privatization. It should be noted that this conclusion assumes a government capability to quickly administer the necessary contracts required during an MRC. With readiness not the major concern it once was, the next logical question is whether or not increased privatization saves the government money over the current public depot system.

Does Privatization Save Money

The General Accounting Office (GAO) has been highly critical of DoD's new policy directing privatization of depot maintenance. Several recent GAO reports have rendered conclusions that if DoD privatizes on a large scale basis without significantly reducing current depot capacity, costs will go up, not down as currently predicted.

Flawed Logic in CORM's Savings Estimate

DoD based its plan for privatization on the results of the CORM. The report to Congress concluded that DoD could realize a savings of 20 percent by privatizing various commercial type activities. It also recommended that DoD transfer all of its depot workload to the private sector. The GAO has reviewed the CORM's recommendations and points out several problems with its justification for the 20 percent figure. Specifically, the GAO found that the CORM used flawed logic in concluding that a 20 percent savings could be achieved in depot maintenance through privatization. The CORM used results from OMB Circular A-76 as a basis for its recommendations. A-76 was initiated as part of Vice President Gore's revamping of government procedures. GAO points out that A-76 results demonstrate savings of 20 percent when privatizing commercial activities like lodging, food service, personnel administration, security and other support activities. A-76 has not been used with depot maintenance in the past and there is no evidence the historical results of the other activities can easily be transposed to a large scale operation like depot maintenance. One of the key concerns is that virtually all of these other examples are low capital and low skill level Services. GAO believes that it cannot be assumed similar savings will be achieved in the high tech environment of depot maintenance.³ It will take time to determine what savings are appropriate in regards to depot maintenance. However, many believe privatization will save money just because of the built-in inefficiencies within the public depot system.

Depots Lack Incentives to Improve

Running a depot, like any large organization rewards performance by measuring certain criteria. The performance incentives or disincentives for managers of public depots are linked to the distribution of overhead and determining appropriate labor hour standards. Simply put, engineers must calculate what steps are necessary to accomplish a given repair and how long it will take to do it. This is critical to determining the cost of the repair and also in spreading the cost of overhead. The depots spread overhead on an hourly basis so the more hours it takes to make a repair the more they can attribute overhead costs to that repair. The incentive for the depots is to charge more through inflated labor standards so that a larger overhead (management, administration costs) can be maintained.

Additionally, inflated labor standards persist because both employees and management are rated on labor efficiency rates. Reducing inflated labor standards would show a corresponding reduction in efficiency. As mentioned above, repair prices or sales prices as they are known by the depots, are partially based on labor rates. A reduction in the rates will also result in lower "sales" revenue.⁴ This would be perceived as poor performance and possibly reflected in management's appraisals.

Excess Capacity is a Cost Driver

Excess capacity contributes to higher costs in a similar fashion. It takes a certain amount of overhead to manage operations regardless of the amount of work performed. By utilizing full or near full capacity, overhead costs are spread out resulting in a lower per job cost. At the heart of this issue is the fact that virtually all of DoD's depots are

suffering from considerable excess capacity. In a May 1996 report to the Armed Services Committee, the GAO asserted the DoD depot system currently has 40 percent excess capacity.⁵ GAO consistently argues that contracting out or privatizing depot work will not reduce overall cost to the government unless more depots are closed in the process.

It seems intuitive privatization would save money based on the inefficiencies mentioned above. The problem is that as you reduce the amount of work that a depot performs the more expensive it gets to accomplish the remaining work because the overhead is allocated over fewer hours. This is the real crux of the problem. GAO maintains that no savings can be realized unless public capacity is reduced concurrently with privatization.

The rest of this section will be case study analyses on each of the Services recent attempt at privatization. These analyses should provide some insight into where DoD and the Services are headed as well as the pros and cons of privatization versus public depot maintenance.

Aerospace Guidance and Metrology Center (AGMC)

In some instances what seemed like a great opportunity to privatize may turn out to be a realization that this is a very complicated process and many factors affect the final outcome. Determining actual savings is not as easy as it might seem. AGMC is a perfect example of how good planning and analysis are crucial to making the right decision to privatize.

The Air Force developed a plan to privatize-in-place the AGMC. The plan called for turning over government operations to a private contractor. Again, the thought process is

that a private company would increase efficiency and reduce costs to the government. Privatization-in-place is attractive because it keeps jobs in the local community even though there may be some restructuring. Usually, the contractor will hire many of the people that were previously working for the government. At face value it appears to be a win-win situation for the government, private industry, and the local community.

GAO's initial report on privatizing AGMC concluded that costs could increase rather than decrease. A later cost estimate suggests that costs could go up as much as \$600 million over a five year period.⁶ DoD's response asserted that privatization-in-place will save money but it will be several years before an assessment can be made because it's a cost reimbursable contract. The Air Force's approach to AGMC may have complicated the process. It was not a "turn-key" type of effort where the government removes itself from the old business and contract with a private firm. Many government employees remained at AGMC to provide oversight and to continue Research, Development, Test and Evaluation (RDT&E) efforts. The net effect is that no reduction in capacity occurred. Existing capacity was merely transferred to the private sector. It's debatable whether privatization-in-place was the best solution in this case. The Air Force could have elected for a full and open competition of the workload and perhaps transferred it to private industry at another location thereby reducing capacity. At this point it's only speculation, but it's possible that savings may have been achieved through competition instead of privatization.

Louisville's Naval Surface Warfare Center Depot

The Navy's decision to privatize-in-place the Louisville Depot has been met with harsh criticism by the GAO. The overriding issue is the concern about privatizing workload without reducing capacity. The net effect is a transfer of excess capacity to the private sector without reducing or eliminating any in the government.

Louisville is an excellent example of the role politics can play in attempts at closing military depots. The city of Louisville lobbied hard to retain the Navy workload at its current location. The Louisville redevelopment authority went so far as to negotiate a contract with Hughes and United Defense on the Navy's behalf. The Navy condoned this concept because it would retain the OEM contractors without having to go through a formal competition. The GAO in its September 1996 report to Congress claims that the Navy violated competition rules by allowing the contract to be awarded in that manner. The report points out the Navy told the Louisville redevelopment authority it was concerned an open competition would complicate the interface between the Navy and its equipment manufacturers.⁷

According to GAO's review of the Navy privatization plan, the Navy overestimated the cost of transferring workload to another depot and underestimated the cost of privatizing-in-place. During the course of the GAO review, the Navy reduced its estimate of savings through privatization from approximately \$170 million to \$60 million. GAO's analysis suggests that it is actually more cost effective to transfer the workload. By eliminating the annual Louisville costs and reducing costs at the receiving depot through a

reduction in underutilized capacity, the Navy could actually save significantly over the next five years.⁸

Two opportunities were missed here. First, moving the workload to another Navy or sister service depot would have helped reduce overall depot capacity. Second, if the Navy had chosen to do a complete and open competition it may have achieved more savings. This situation, as well as the Air Force's privatization plans in San Antonio and Sacramento highlight the desire to take care of the local community. This case underscores the need for a clear and comprehensive plan for all of DoD. The Navy like its sister Services is primarily concerned about its own service requirements. Without some form of top down oversight within DoD, getting the Services to reduce capacity will be a difficult and drawn-out affair. Interservicing is a potential alternative to privatization but still suffers from the same problems concerning over capacity.

Notes

¹ Congressional Budget Office. *Public and Private Roles in Maintaining Military Equipment at the Depot Level*. Washington, D.C.: Government Printing Office, July 1995, 3.

² Congressional Budget Office. *Public and Private Roles in Maintaining Military Equipment at the Depot Level*. Washington, D.C.: Government Printing Office, July 1995, 4.

³ General Accounting Office. *Defense Depot Maintenance: Commission on Roles and Mission's Privatization Assumptions are Questionable*. Washington D.C.: Government Printing Office, 15 July 1996, 2.

⁴ General Accounting Office. *Closing Maintenance Depots: Savings, Workload and Redistribution Issues*. Washington, D.C.: Government Printing Office, 4 March 1996, 42.

⁵ General Accounting Office. *Defense Depot Maintenance: More Comprehensive and Consistent Workload Data Needed for Decisionmakers*. Washington, D.C.: Government Printing Office, 21 May 1996, 10.

⁶ General Accounting Office. *Closing Maintenance Depots: Savings, Workload and Redistribution Issues*. Washington, D.C.: Government Printing Office, 4 March 1996, 55.

Notes

⁷ General Accounting Office. *Navy Depot Maintenance: Cost and Savings Issues Related to Privatization-in-Place at the Louisville, KY, Depot.* Washington D.C.: Government Printing Office, 18 September 1996, 10.

⁸ Ibid, 10.

Chapter 4

Interservicing Success and Failure

Effectiveness of Public-Public Competitions

Interservicing is a potential alternative to privatization. One method of obtaining interservicing is through competitions between existing government depots. Before being discontinued in 1994, several competitions between the Services for depot work did show promise for reducing cost and making better use of capacity. As a result of the 1991 BRAC, Army workload at the Sacramento Depot was directed for competition between Army Depots and Sacramento Air Logistics Center. As mentioned earlier, politics had a lot to do with this decision. The end result was a significant reduction in cost to the government.

Interservice Competition Reduces Cost

The Army estimates that it will have saved almost \$400 million between 1993 and 1998 as a result the Sacramento competition.¹ Chapter three highlighted some of the reasons why depots were inefficient. Competition is a great motivator for depot management especially when there is potential for your depot to be the one on the chopping block. It is an excellent tool to help reduce inefficiencies at the depots. In this

case both the Army and the Air Force were able to reduce the cost of repair over the existing depot by reengineering the closing depots' workload (Table 2). Unnecessary repairs were eliminated, labor standards were reduced, and new cheaper repair procedures were developed. I am sure you are wondering why the old depot did not do this long ago. You have to remember the incentives in place for the depots. Without the rigors of competition, the incentive for the depots is to keep labor standards inflated.

Table 2. Sacramento's Competition Savings

Equipment Group	Sacramento's costs	Winning Bid	Price reduction	Percent reduction
Fighting Vehicle Electronics	\$11,558	\$3,715	\$7,843	67.9
Electro-optics	174,024	48,102	125,922	72.4
Gvros	18,664	1,260	17,404	93.3
Radar	34,008	3,474	30,534	89.8
Test Equipment	22,278	1,235	21,043	94.5
Airborne Electronics	37,655	4,653	33,002	87.6
Radio	55,425	4,976	50,449	91.0
Intel & Electronic Warfare	85,074	7,204	77,870	91.5
Wire/Data Comm switches	26,513	1,358	25,155	94.9
Total	\$465,198	\$75,977	\$389,222	83.7

One of the challenges for the depots is to determine from the customer, exactly what are the necessary repairs. At the same time, the depots must adhere to their customers' requests. In this case, Army customers wanted items returned in a serviceable condition. The old depot was returning them in a "like-new" condition that significantly drove up the cost of repair.

Inflated labor standards present a similar issue. An example would be a labor standard that quotes a repair time of 10 hours but it really only takes two. During a competition there is incentive for the bidding depot to trim back that standard to be more

competitive. Two of the Sacramento competitions reduced prices by 68 and 72 percent just by lowering labor standards. Clearly, this is an area that requires much attention within the public depot system.

Improved repair procedures can produce the same type of results. Sacramento Air Logistics Center developed a repair process for the AN/TPQ-37 radar for subarray modules considered nonrepairable by the Army.² The replacement cost was \$4,400 and the repair cost is \$500, a considerable savings over the five year term of the repair agreement. The Tobyhana Depot made similar improvements in its bid for Sacramento work. New testing methods for ground radios reduced redundant work and projected a savings of \$6,035 per radio. Again, over the five year term of the repair agreement, the savings add up to millions of dollars.

Roadblocks to Interservice Maintenance

The Sacramento competition was a success story that may not have occurred except for the BRAC mandate. Other voluntary attempts at interservice maintenance agreements have not fared quite as well. There are some valid concerns about having work performed on your front line equipment by another Service. Will it get the same priority it did with the owning Service's depot? Who will resolve disputes between the owning Service and the depot? Will the quality of the repairs be the same? These are all valid questions that a Service will ask when considering an interservice maintenance agreement. Another major concern is the well-being of the owning Service's depot system itself. If the work is sent to another Service what is the impact on the owning Services depot system? Will it drive up costs for other repairs at the losing depot? These are tough

questions to answer and present a significant roadblock to increased interservice agreements. Politics both inside and out of the Services will play a part in answering those questions. The Navy's decision to stop repairs of the F/A-18 at Ogden Air Logistics Center are a prime example of the challenges of interservicing.

Navy Cancels Agreement with Air Force

In 1992 the Navy decided to compete its Modification, Corrosion, and Paint Program (MCAPP) of the F/A-18. This was probably not an easy decision in light of some of the questions posed above. The Navy received bids from Ogden ALC (where the Air Force maintains its F-16) and two private contractors. The Navy awarded the contract in 1993 to Ogden who submitted the lowest bid.

The original contract was written for between 30 and 90 MCAPPs. Ogden was subsequently notified that it would only get the minimum 30 MCAPPs because the Navy wanted to maintain core capability at its North Island facility.³ The Navy justified this decision based on Ogden's performance on the first 16 MCAPPs completed. The Navy claimed that Ogden was not meeting schedule. Ogden argued that the reason for the delays was because the Navy was late in delivering parts and in providing funding. Ogden submitted over 100 letters to the Navy contracting officer asking for extensions because of the Navy delays. The Navy did not respond to any of the letters until after the contract was terminated.⁴

The Navy also used cost savings as justification for moving the work back to North Island. The Navy analysis made several adjustments to Ogden's original bid that increased the number of labor hours while at the same time downward adjusting the amount of labor

hours that North Island bid. Ironically, the basis for reductions to North Island's bid was a result of a visit to Ogden by North Island personnel to review their processes and procedures. New procedures implemented at North Island resulted in a 37 percent reduction in repair costs. The Navy made numerous other adjustments to North Island's and Ogden's repair costs, all favorable to North Island. None of these cost adjustments were reviewed by Defense Contract Audit Agency (DCAA).⁵

The bottom line is that the Navy justified its action on skeptical data to suit its own desires. It's coincidental that this decision took place at the same time of the 1993 BRAC. It's commendable that the Navy took the initial step to compete the workload in the first place, however, in the end it succumbed to its internal desire to shore-up its own shrinking depot system.

Many of the questions posed above were not answered in this instance because of the way the agreement was terminated. The Navy never argued that it was not getting priority service from Ogden, in fact, the opposite argument might be made. The concerns over schedule slips seem to have been self-inflicted. The answers to the remaining questions appear self-evident. Ostensibly, the Navy may have pulled back the work to protect its own depot system, especially in light of ongoing and proposed future rounds of BRAC.

Unfortunately, future interservicing agreements will be more difficult to implement because of this case. It's very difficult to ask one Service to put jobs at risk so that another Service can preserve jobs at another location in the name of increased efficiency and capacity reduction. In the end, it's probably not a decision that can be made by the

parties directly involved. DoD or other outside entities like the CORM or BRAC will have to assist the Services in making the tough calls.

Notes

¹ General Accounting Office. *Closing Maintenance Depots: Savings, Workload and Redistribution Issues*. Washington, D.C.: Government Printing Office, 4 March 1996, 42.

² Ibid, 42.

³ General Accounting Office. *Depot Maintenance: The Navy's decision to stop F/A-18 repairs at Ogden Air Logistics Center*. Washington, D.C.: Government Printing Office, 15 December 1995, 2.

⁴ Ibid, 6.

⁵ Ibid, 12.

Chapter 5

Future of Depot Maintenance

The future is made of the same stuff as the present.

—Simone Weil
French Philosopher

The future of public depot maintenance is already taking shape in the policy DoD is promulgating. Privatization is no longer just a good idea or a concept; it is a course of action. Just how far DoD takes it or Congress lets it, is the only remaining question.

At not much risk to one's credibility, a safe prediction is that GAO will continue to hammer DoD about privatization without capacity reduction in the Service depots. Over time the Services must further reduce the number of depots within DoD. Current and projected budgets cannot sustain the over capacity that exists today. There will be more examples of where the Services could do a better job or could have saved more money along the way, but in the end they will reduce depot capacity to be in line with force structure.

Privatization-in-place will lose its appeal as defense budgets continue to shrink. While it provides a mechanism to keep workload in the local community and provides Service leadership with political ammunition on the "hill", the budget just cannot support the amount of combined public and private depot maintenance capacity that exists today.

Defense Depot Maintenance Agency

There will always be some form of public depot maintenance. There are certain workloads that will not be profitable enough for private industry to take them on. Also there are workloads that are just too risky not to have some form of organic capability available. An avenue for potential savings and better control over capacity is a central organization that takes the macro view across the Services.

OSD has already considered this approach in its concept paper for a Defense Depot Maintenance Agency. This agency would be similar to other OSD-level organizations like Defense Logistics Agency or Defense Contract Management Command. The director of this agency would be a depot maintenance guru who would control all existing depot maintenance activities.¹ The director of this agency would be better equipped to make the tough decisions of resizing the depots across service lines. He would also be in a position to try some pilot programs like creating a joint depot.

Joint Depots

Depots may take on a purplish tint in the future. With the acquisition of joint weapon systems like the Joint Strike Fighter (JSF) and the Joint Primary Aircraft Trainer System (JPATS) it may make sense to establish a joint depot maintenance system as well. The CORM already has suggested that DoD establish a centralized single manager for fixed wing aircraft. Since aircraft development, acquisition and sustainment represent the single largest portion of the modernization budget, it seems logical that consolidation of this function within DoD would bring about some savings.

Notes

¹ Department of Defense. *Integrated Management of Department of Defence Depot Maintenance Activities*. Washington, D.C.: Government Printing Office, October 1993, F-25.

Chapter 6

Conclusions

Frankly, I'd like to see the government get out of war altogether and leave the whole field to private industry.

—Joseph Heller
Catch-22

As it turns out, novelist Joseph Heller might be a great prognosticator in addition to a fine writer. Perhaps the government is not getting out of the business of war but the business is surely experiencing major changes. Once the bureaucracy gains momentum in a certain direction it's near impossible to change its course. It appears as though DoD has started down the path of major reductions in depot maintenance capacity if not eventual complete elimination. Recent Congressional hearings have stemmed the tide somewhat and Congress has directed DoD to develop a better plan for identifying core work. This may cause DoD to rethink its approach on privatization and how to determine core workloads. However, the current depot system cannot be supported by proposed DoD budgets. In the long run, a smaller military means less equipment that combined with technological improvements should result in less need for repairs.

No matter how you couch it, saving money means reducing costs, which in the depot maintenance business means cutting labor hours. Reduced labor hours means less people

and fewer jobs. Cutting jobs turns this into as much a political process as a prudent business decision to lowering costs.

The Services have experienced difficulty in reducing infrastructure on their own. Congress has provided mechanisms in BRAC and CORM to help accomplish this goal. In response there have been several experiments with privatization-in-place. The examples highlighted herein suggest that this technique may not always save money. In both cases it did nothing to reduce capacity in either the public or private sectors. There may be instances where privatization-in-place will work and meet the Service's needs. However, the evidence points to a need for thorough analysis of all options before making that decision.

An alternative to privatization is interservicing. There has not been much utilization of this approach to date but it has shown promise. Because this is a difficult decision for the Services to make on their own, the creation of a separate OSD agency may be the best solution. This agency will have a broader perspective than the individual Services which may help in making innovative changes within the DoD depot infrastructure. One potential innovation is the creation of a joint depot that repairs similar equipment from all the Services. As the JCS concentrates more on joint warfighting and joint acquisition there is no reason not to apply the same joint perspective to depot maintenance.

Appendix A

Detailed History of Depot Maintenance

The following history on Service depot maintenance is excerpted from the March 4, 1996 GAO report to Congress.

Army Depots

From the Revolution until World War II, the Army's equipment maintenance needs were mostly contracted out. During the 19th century, in-house maintenance work, consisting mostly of rifle and other gun repair, as well as carriage repair, was done in the Army's arsenals, which also manufactured guns. The number of arsenals tended to rise and fall according to the various wars and other military actions that occurred in the 19th and 20th centuries.

About the time of World War I, the Army began to acquire larger equipment such as trucks and tanks, which typically require more maintenance than rifles, guns, and carriages. Still, most maintenance work between World Wars I and II continued to be contracted out. Finally, during and after World War II, large-scale, in-house equipment maintenance began in earnest when the Army acquired massive quantities of new, modern equipment.

By the 1970s, the Army's depot maintenance work was centralized at a limited number of depots compared to previous years. In 1976, 10 depots performed maintenance work in the continental United States and two in Europe. Between 1983 and 1985, Army depot maintenance personnel strengths increased to over 20,000, their highest level ever. At that time, the organic program represented approximately 67 percent of the total Army direct depot maintenance program funding. During the mid-1980s, the Army lost some of its organic depot maintenance workload, staffing, and capacity. By 1988, only six depots were still performing maintenance work in the United States and only one in Europe. Sierra, Seneca, Sacramento, and New Cumberland depots had stopped performing maintenance work in the United States and in Europe, the Mainz Depot was closed. However, as its in-house maintenance capability declined, the Army increased its reliance in commercial sources, reversing a long trend.

Although the DoD's input to the 1995 BRAC process recommended closing the Red River Army Depot and transferring the light combat vehicle maintenance mission to the Anniston Army Depot, the BRAC Commission disagreed. The commission found that although Anniston has the capacity to accept ground combat vehicle workload from Red River, this would place too much risk on readiness. It recommended realigning Red River Army Depot by moving all maintenance missions, except for that related to the Bradley fighting vehicle series, to other depot maintenance activities, including the private sector.

Navy Shipyards

In 1799, Congress authorized five naval shipyards to be located at Portsmouth, NH; Boston, MA; New York, NY; Philadelphia, PA; and Norfolk, VA. The Mare Island and

Puget Sound shipyards were authorized in 1852 and 1891 respectively. The last four shipyards were authorized in this century: Charleston, in 1901; Pearl Harbor, in 1908; San Francisco (Hunters Point), in 1919; and Long Beach, in 1940.

From the earliest years, through World War I, naval shipyards were the principal logistics support element in the Navy's shore establishment. In addition to building and repairing ships, naval shipyards provided many support activities, such as supply support, medical and dental care, and training facilities. During the period between the World Wars, additional shore facilities were established to support the fleet and provide a wide range of support Services. Naval shipyards were thus able to focus on their industrial mission of building, maintaining, and modernizing Navy ships. Employment peaked at over 380,000 personnel during World War II.

In 1968, naval shipyards stopped building ships in order to concentrate on repairing an increasingly complex fleet. This enabled the private sector to focus more on new construction. From the mid-1960s to the mid-1970s, the Navy closed three nonnuclear shipyards--New York, Boston, and Hunters Point--leaving six nuclear-capable and two nonnuclear naval shipyards. These closure decisions were made after careful studies indicated that there was excess capacity for the foreseeable peacetime and mobilization workloads.

During the post-Vietnam years, naval shipyards' employment peaked at 80,000 in 1983. Since then, naval shipyard employment levels have declined due to improved ship design techniques, reduced force levels, changes in maintenance philosophy, and austere budgets. As a result, the Philadelphia Naval Shipyard was selected for closure during the

BRAC 1991 process and the Mare Island and Charleston naval shipyards is projected to be 29,520 by the end of fiscal year 1996.

DOD recommended closing the Long Beach Naval Shipyard while retaining (1) the sonar dome in a government-owned, contractor-operated facility and (2) family housing units needed to fulfill Department of the Navy requirements. The 1995 BRAC Commission concurred with this recommendation.

Air Force Depots

From 1918 till 1939, the Army Air Corps, from which the Air Force was created after World War II, operated four air depots. With the threat of global conflict in 1939, two additional depots were constructed. During World War II, the number of depots increased to 12. After the war, three depots were deactivated. In the early 1950s, during the Korean Conflict, the Air Force invested \$1.8 billion to upgrade the remaining nine depots, which became part of the Air Materiel Command. A 10th depot was activated in 1961 to house laboratories and management activities for the Air Force's metrology and calibration program and depot repair of inertial navigation systems for intercontinental missile systems aircraft. The Air Force entered the 1960s with over 145,000 personnel at 10 logistics centers, including 62,000 depot maintenance personnel. In 1963 and 1964, 4 of the 10 depots were closed. The remaining six became the base of the Air Force Logistics Command in support of the Vietnam Conflict. Five of the six were located on multifunction logistics bases called air material areas, which were responsible for both wholesale supply and depot maintenance activities for Air Force weapon systems and

equipment. By the end of the 1960s, the Air Force Logistics Command had been reduced to 112,000 employees, including 50,000 depot maintenance personnel.

During the 1970s, the Air Force consolidated individual repair activities at its six depots, reducing the number from 52 to 20. This realignment eliminated duplicate repair sources for many commodity items. During the early 1980s, Air Force logistics operations grew as US military forces were increased during the Reagan years. The Air Force undertook a major capitalization improvement program to modernize the depot industrial base with modern plant equipment and technological advancements. The Air Force Logistics Command employed 90,9000 employees in 1986, including 40,800 depot maintenance personnel. In the 1990s, downsizing consolidations, and cuts were made to the Air Force depot systems, and the Air Force Logistics Command merged with the Air Force Systems Command to form the Air Force Material Command. Depot maintenance manning was reduced by 17 percent between 1990 and 1991. In 1995, the Air Force Material Command had 28,520 depot maintenance personnel.

The type of depot maintenance work accomplished at each of the Air Force depots includes the following:

- Ogden Air Logistics Center: strategic missiles, aircraft, air munitions, photo/reconnaissance, and landing gear;
- Oklahoma City Air Logistics Center: aircraft, engines, oxygen equipment;
- Sacramento Air Logistics Center: space/ground communications-electronics, aircraft, hydraulics, and instruments;
- San Antonio Air Logistics Center: aircraft, engines, and nuclear equipment;

- Warner Robins Air Logistics Center: aircraft, avionics, propellers, and life support systems; and
- Aerospace Guidance and Metrology Center: inertial guidance and navigation systems and components and displacement gyroscopes for intercontinental ballistic missiles and most Air Force aircraft.

The 1993 BRAC Commission recommended closing the Aerospace Guidance and Metrology Center, Newark, Ohio, which is being privatized-in-place. Although DOD did not recommend any additional depots for closure in 1995, the BRAC Commission recommended closing the San Antonio Air Logistics Center and Sacramento Air Logistics Center, which the Air Force also plans to privatize-in-place. The Air Force also has one depot-level activity in Colorado Springs, Colorado, which performs software maintenance on Air Force Space systems. This activity is not funded using depot maintenance funds and is not officially categorized as a depot. It is staffed with a combination of government and contractor personnel. Air Force contractors also maintain several government-owned, contractor-operated facilities used for repairing specific Air Force systems.

Appendix B

OSD Memorandum

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
COMPTROLLER
GENERAL COUNSEL
INSPECTOR GENERAL
DIRECTOR, OPERATIONAL TEST AND EVALUATION
ASSISTANT TO THE SECRETARY OF DEFENSE
DIRECTOR OF ADMINISTRATION AND MANAGEMENT
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Policy for Maintaining Core Depot Maintenance Capability

The Services designate certain weapon systems, equipment, and components as mission essential for support of Joint Chiefs of Staff (JCS) approved scenarios. The Department ensures that there is DoD core depot maintenance capability to support these mission essential weapon systems. Depot maintenance core is the capability maintained within organic Defense depots to meet readiness and sustainability requirements of the weapon systems that support the JCS contingency scenario(s). Core exists to minimize operational risks and to guarantee required readiness for these systems. Core depot maintenance capabilities will comprise only the minimum facilities, equipment and skilled personnel necessary to ensure a ready and controlled source of required technical competence. Depot maintenance for the designated weapon systems will be the primary workloads assigned to DoD depots to support core depot maintenance capabilities.

The Military Services will use the DoD approved methodology (attached) to compute core depot maintenance requirements. However, it is not required that all weapon systems, equipment or components designated as mission essential be maintained in DoD depots. When the owning Service Secretary determines that sufficient assured source(s) of repair exist in the private sector to negate specific weapon system-related risk, that weapon system may be maintained by private industry.

This policy statement will be incorporated into applicable DoD policy directives and instructions during their next revision. It is requested that the Military Departments implement this guidance immediately and provide this office with their quantified core depot maintenance requirements as soon as practicable but no later than January 15, 1994. Implementation plans and decisions shall be reflected in future annual POM and budget submissions and inputs to the Defense Depot Maintenance Council Strategic Plan.

JAMES R. KLUGH
Deputy Under Secretary (Logistics)

Attachment:

CORE METHODOLOGY

In order to quantify CORE and relate it back to the contingency requirement, it is necessary to develop a workload sizing methodology. The most important aspect of this methodology is that it is driven by the contingency scenario, rather than any requirement from the maintenance depot. A brief explanation of a conceptual depot maintenance CORE sizing methodology approach is provided below. The conceptual steps are identified by the alpha characters.

- a. Identify the specific types and the quantity of mission essential equipment to be used in the JCS approved contingency scenario(s).
- b. Determine a workload experience factor per unit based on known usage for each item of equipment. Make conversions based on applicable failure factors, op tempo adjustments, and scenario driven environmental/attrition factors.
- c. Compute scenario depot maintenance workload based on scenario readiness and sustainability requirements.
- d. Determine depot skills required to support scenario requirements expressed in direct labor hours, labor days, or other appropriate measure.
- e. Adjust for depot surge capacity. This provides the conversion necessary to account for the difference between peacetime and surge production capacity.
- f. Calculate basic CORE workload requirement.
- g. Apply an efficiency/economy factor to keep the required minimum CORE support effort from being exorbitantly and prohibitively expensive.
- h. Determine peacetime CORE requirement.

I. Non-CORE workload is the difference between current or planned total peacetime workload and peacetime CORE requirements.

The capacity determined as the result of the CORE methodology computation is not the total capacity required. Capacity is also needed to handle "last source" repair requirements, cost control (competed workload), and rationally justified reserve capacity. CORE is computed as a reasonable statement of workload needed to establish and maintain contingency-driven weapon system support capabilities..

Private	509	2,002	2,806	35	5,352
ICS/CLS*	72	524	34	0	630
Total private	\$581	\$2,526	\$2,840	\$35	\$5,982
Public-private mix (percent)	53/47	40/60	50/50	81/19	47/53

Table 3. Projected Workload

*Interim Contractor Support/Contractor Logistics Support

Source: GAO/NSIAD-96-166 Defense Depot Maintenance

Glossary

ALC	Air Logistics Center
AGMC	Aerospace Guidance and Metrology Center
BRAC	Base Realignment and Closure
CLS	Contractor Logistics Support
CORM	Commission on Roles and Missions
DCAA	Defense Contract Audit Agency
DEPSECDEF	Deputy Secretary of Defense
DLA	Defense Logistics Agency
DoD	Department of Defense
DoDI	Department of Defense Instruction
GAO	Government Accounting Office
ICS	Interim Contractor Support
JCS	Joint Chiefs of Staff
JPATS	Joint Primary Aircraft Trainer System
JSF	Joint Strike Fighter
OEM	Original Equipment Manufacturer
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
MCAPP	Modification, Corrosion, and Paint Program
MRC	Major Regional Conflict
A-76	initiative to convert government Services to the private sector. A-76 is primarily focused on unskilled or semi-skilled labor.
core methodology.	process used by DoD to determine amount of work to be performed by public maintenance facilities.
interservicing	one service providing maintenance support to another service via an official arrangement such as a contract or memorandum of agreement (MOA)
labor standard	amount of time allotted for a skilled technician to perform a prescribed maintenance task. A labor standard does not necessarily reflect the actual amount of time required to perform the task.

privatization	transferring Services currently provided by government personnel to the private sector
privatization-in-place	transferring work to the private sector while utilizing the existing government facilities by either leasing or selling the facilities to the private sector
public-public competition	competition between at least two different public maintenance facilities for government work

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